

**PATENT APPLICATION**  
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q94379

Yasuyuki SANAI

Appln. No.: 10/578,623

Group Art Unit: 1796

Confirmation No.: 1501

Examiner: Jessica I. TREIDL

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For: **ACTIVE ENERGY BEAM-CURABLE COMPOSITION FOR OPTICAL MATERIAL**

**DECLARATION UNDER 37 C.F.R. § 1.132**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Yasuyuki SANAI, hereby declare and state:

I am a citizen of Japan;

I am a graduate of the Graduate School of Engineering of Kansai University and have received a Master's Degree in March 1995;

Since April 1995, I have been employed by TOAGOSEI CO., LTD. and have been engaged in the study of polymer materials; and

I am the inventor of the invention described and claimed in the above-identified application, and I am familiar with the Office Action dated February 2, 2009.

In order to demonstrate the unexpected superiority of the present invention, the following experimentation was conducted by me or under my direct supervision.

**Experimentation**

The compositions of Examples 2 and 3 in Table A below are the same as the compositions of Examples 2 and 3, respectively, in the present application.

The compositions of Comparative Examples 3' and 4' in Table A were formed in the same manner as in Examples in the present application except that component (A) was replaced as described in Table A.

That is, the respective components shown in Table A were stirred and mixed according to an ordinary method, and a solid photoinitiator was heated and dissolved in a dryer having been maintained previously at 80°C over 15 minutes to prepare an ultraviolet-curable composition.

The obtained cured article was evaluated by means of the following workability method. The result is listed in Table A below.

Workability was evaluated in the same manner as in the Examples in the present application.

The obtained cured article was evaluated by means of the following method in the same manner as in the Examples in the present application. The result is listed in Table A.

**<Workability>**

The treatability of the composition upon manufacturing a cured article was evaluated. The composition that is liquid at room temperature is denoted by "Excellent", and one that is solid or pasty is denoted by "Poor".

(Table A)

	Composition (part by weight)				Result
	(A)	Other	(B)	(C)	
	BAEPS	MPSMA	o-PPA	Irg184	Workability
Ex. 2	70	-	30	5	Excellent
Ex. 3	80	-	20	5	Excellent
Comp. Ex. 3'	-	70	30	5	Poor*
Comp. Ex. 4'	-	80	20	5	Poor*

In Table A, the abbreviated expressions have the following meanings.

BAEPS: bis(4-acryloxyethoxyphenyl) sulfide, a compound represented by formula (1) of the present invention

MPSMA: bis(4-methacryloylthiophenyl) sulfide, which is used in the Examples of Fukushima et al.(US 5,969,867)

o-PPA: o-phenylphenyl acrylate, a compound represented by formula (2) of the present invention

Irg184: 1-hydroxycyclohexylphenyl ketone, IRGACURE184, manufactured by Ciba Specialty Chemicals K.K.

\* : After mixing at 80°C, the composition crystallized when the composition was cooled to room temperature.

Each of the compositions of Comparative Examples 3' and 4' in Table A, which included MPSMA in place of component (A) of the present invention, was poor in workability.

In contrast, each of the compositions of Examples 2 and 3 in Table A, which included component (A) of the present invention, was excellent in workability.

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Attorney Docket No.: Q94379

Therefore, an ultraviolet-curable composition of the present invention is especially excellent in workability, and Fukushima et al. neither teaches nor suggests the present invention and its excellent effect.

Thus, I conclude that the present invention provides unexpectedly superior results.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: Apr. 27, 2009

By: Yasuyuki Sanai  
Yasuyuki SANAI